

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
15 September 2005 (15.09.2005)

PCT

(10) International Publication Number
WO 2005/086276 A1

(51) International Patent Classification⁷: **H01P 9/00, 1/18**

(21) International Application Number:
PCT/SE2004/000329

(22) International Filing Date: **9 March 2004 (09.03.2004)**

(25) Filing Language: **English**

(26) Publication Language: **English**

(71) Applicant (for all designated States except US): **TELEFONAKTIEBOLAGET LM ERICSSON (PUBL)** [SE/SE]; S-126 25 Stockholm (SE).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **KUYLEN-STIERNA, Dan** [SE/SE]; Lindströmsgatan 3C, S-412 61 Göteborg (SE). **JACOBSSON, Harald** [SE/SE]; Fullrigaregatan 10A, S-426 74 Västra Frölunda (SE). **LEWIN, Thomas** [SE/SE]; Landstormsvägen 40, S-439 94 Onsala (SE). **GEVORGIAN, Spartak** [AM/SE]; Adler Salvius gata 15, S-411 11 Göteborg (SE).

(74) Agent: **ALBIHNS GÖTEBORG AB**; Box 142, S-401 22 Göteborg (SE).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

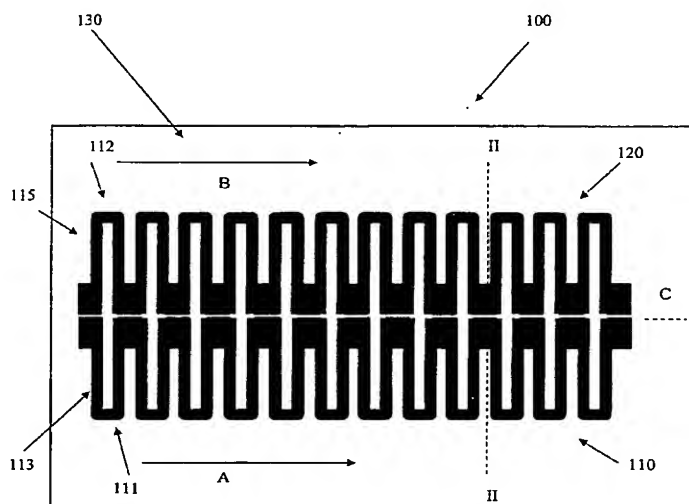
— of inventorship (Rule 4.17(iv)) for US only

Published:

— with international search report

[Continued on next page]

(54) Title: **AN IMPROVED TUNEABLE DELAY LINE**



(57) Abstract: A tunable electromagnetic delay line, comprising a first conductor with a first main direction of extension, said first conductor being arranged on top of a non-conducting substrate, characterized in that the delay line additionally comprises a layer of a ferroelectric material with first and second main surfaces, which layer separates the first conductor and the substrate, and in that the delay line also comprises a second conductor with a second main direction of extension, with the first and second main directions of extensions essentially coinciding with each other, and with the first and second conductors being each other's mirror image with respect to an imagined line in the center of the delay line along said first and second main directions of extension, said tuning being accomplished by applying a voltage between said first and second conductors.



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.